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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

107101-00050

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on \_\_\_\_\_

Signature \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Application Number

10/800,651

Filed

March 16, 2004

First Named Inventor

Shusuke AKAZAKI

Art Unit

3748

Examiner

T. M. NGUYEN

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)☒ attorney or agent of record.  
Registration number 56,127☐ attorney or agent acting under 37 CFR 1.34.  
Registration number if acting under 37 CFR 1.34 \_\_\_\_\_  
SignatureWan-Ching Y. Montfort  
Typed or printed name(202) 857-6000  
Telephone numberOctober 24, 2007  
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☒ \*Total of 1 forms are submitted.

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## PATENT APPLICATION

### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Confirmation No.: 1118

Shusuke AKAZAKI

Group Art Unit: 3748

Application No.: 10/800,651

Examiner: NGUYEN, Tu Minh

Filed: March 16, 2004

Attorney Docket No.: 107101-00050

For: EXHAUST GAS PURIFICATION SYSTEM OF INTERNAL COMBUSTION  
ENGINE

### PRE-APPEAL BRIEF REQUEST FOR REVIEW

#### Mail Stop AF

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

October 24, 2007

Sir:

The Applicants request review of the Final Office Action mailed July 25, 2007, in the patent application identified above. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal.

## **REMARKS**

Claims 1 and 7-14 are currently pending in the subject application. The outstanding Office Action is a Final Office Action. Thus, the application qualifies for Appeal.

In the Office Action mailed July 25, 2007, claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,524,433 to Adamczyk Jr. et al. ("Adamczyk") in view of U.S. Patent No. 5,343,846 to Ogawa et al. ("Ogawa"), Claims 7-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Adamczyk in view of Ogawa and further in view of U.S. Patent No. 5,613,359 to Zahn et al. ("Zahn"), and Claims 11-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Adamczyk in view of Ogawa and Zahn, and further in view of U.S. Patent No. 5,606,855 to Tomisawa ("Tomisawa").

The Applicants submit that the rejections are made in error for at least the reasons set forth below.

### **I. Essential Element(s) Omitted for *Prima Facie* Obviousness Rejection**

The outstanding Office Action cites and applies references that, alone and in any combination thereof, fail to teach or suggest each and every feature recited by the pending claims. It is well known that under U.S. patent practice, to establish *prima facie* obviousness of a claimed invention, all claim features must be taught or suggested by the prior art. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA). "All words in a claim must be considered in judging the patentability of that claim against the prior art." See *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious. See *In re Fine*, 837 F.2d 1071, 5 mUSPQ2d 1596 (Fed. Cir. 1988). M.P.E.P. §2143.03.

The system for purifying exhaust gas generated by an internal combustion engine of Claim 1 includes, among other things, feedback loop means having an adaptive controller with an adaptation mechanism that estimates an adaptive parameter, the adaptive parameter calculating a feedback correction coefficient based on the estimated

adaptive parameter such that the detected air/fuel ratio converges to a desired air/fuel ratio, EGR correction coefficient calculating means for calculating an EGR correction coefficient when recirculating the exhaust gas to the air intake system, and fuel injection quantity correcting means for correcting the quantity of fuel injection based on at least the feedback correction coefficient and the EGR correction coefficient.

At page 5, line 10 to page 6, line 2 of the Final Office Action mailed July 25, 2007, the Examiner admitted that Adamczyk fails to teach or suggest at least an EGR correction coefficient calculating means to calculate an EGR correction coefficient, and a fuel injection quantity correcting means for correcting a quantity of fuel injection based on at least the EGR correction coefficient and a feedback correction coefficient. In his Office Action dated April 17, 2007, the Examiner also admitted that Adamczyk fails to teach or suggest a feedback loop means having an adaptive controller. To support his rejection, however, the Examiner asserted that from Ogawa, it is conventional in the art to compute an adhering fuel-dependent correction process that when the engine is in an EGR-performing region, a fuel injection period (TOUT in expression (32)) based on a feedback correction coefficient (KLAF) in response to a detected oxygen concentration from a LAF sensor (29) and a final direct supply ratio (Ae) which is dependent on an EGR correction coefficient (REA) (see expression (2)) and Figure 34.)

The Applicant submits that this assertion is made in error at least because Ogawa does not, teach or suggest a feedback loop means, EGR correction coefficient means and fuel injection quantity correcting means as recited in Claim 1. In Ogawa, col. 24, lines 24 to 43, Ogawa determines a basic direct supply ratio A by referring to a A map and determines a basic carry-off ratio B by referring to a B map. The A map is set such that map values A(0,0) to A(6,6) are provided in a manner corresponding to predetermined values PBA0 to PBA6 of the intake pipe absolute pressure PBA and predetermined values TW0 to Tw6 of the engine coolant temperature. The B map is set in a similar way that the A map is set. When the engine is determined to be in the EGR-performing region, an EGR-dependent correction coefficient KEA for the final direct supply ratio Ae is determined by retrieving a KEA map. The KEA map is set such that

map values KEA(0,0) to KEA(6,4) are provided in a manner corresponding to predetermined values PBA0 to PBA6 of the intake pipe absolute pressure PBA and predetermined values KEGR0 to KEGR4 of the EGR-dependent correction coefficient KEGR. In addition, an EGR-dependent correction coefficient KEB for the final carry-off ratio  $Be$  is determined by retrieving a KEB map. The KEB map is set in a similar way that the KEA map is set. See Ogawa, col. 24, line 64 to col. 25, line 29.

From the above description, Applicants respectfully submit that Ogawa does not calculate a quantity of fuel injection and/or the EGR correction coefficient. Instead, Ogawa refers to various pre-stored maps to retrieve the values from the pre-stored maps, which is completely different from performing calculation. Indeed, Ogawa does not teach or disclose any feedback loop means, especially a feedback loop means having an adaptive controller with an adaptation mechanism that estimates an adaptive parameter, the adaptive controller calculating a feedback correction coefficient based on the estimated adaptive parameter such that the detected air/fuel ratio converges to a desired air/fuel ratio, as recited in Claim 1. For the same reasons, Ogawa also fails to teach or suggest an EGR correction coefficient calculating means for calculating an EGR correction coefficient when recirculating the exhaust gas to the air intake system, and fuel injection quantity correcting means for correcting the quantity of fuel injection based on at least the feedback correction coefficient and the EGR correction coefficient, as recited in Claim 1.

Thus, neither Adamczyk nor Ogawa, when taken singly or in combination thereof, discloses or suggests each and every limitations of Claim 1, particularly feedback loop means having an adaptive controller with an adaptation mechanism that estimates an adaptive parameter, the adaptive parameter calculating a feedback correction coefficient based on the estimated adaptive parameter such that the detected air/fuel ratio converges to a desired air/fuel ratio, EGR correction coefficient calculating means for calculating an EGR correction coefficient when recirculating the exhaust gas to the air intake system, and fuel injection quantity correcting means for correcting the quantity of

fuel injection based on at least the feedback correction coefficient and the EGR correction coefficient, as recited in Claim 1.

Accordingly, the Applicants respectfully submit that the Examiner's assertion that the applied art of record discloses, let alone suggests, the aforementioned features is an error based upon a clear factual deficiency in the rejection, and not a matter of interpretation. Claim 1 should be patentable over Adamczyk in view of Ogawa.

Furthermore, Zahn and Tomisawa fail to cure the deficiencies of Adamczyk and Ogawa. Therefore, based on the reasons stated above and their dependency from patentable independent Claim 1, Claims 7-14 should be also patentable over Adamczyk in view of Ogawa, Zahn and Tomisawa.


## **II. Conclusion**

For all of the above reasons, review of the outstanding Office Action is respectfully requested, and a favorable decision, and allowance of all pending claims, are earnestly solicited.

In the event this paper is not considered to be timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300 referencing client matter number 028849-00033.

Respectfully submitted,

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